Karachi Institute of Economics & Technology
College of Computing & Information Sciences

Numerical Computing & Analysis

Assignment

Class ID :	**Student ID : 7791**
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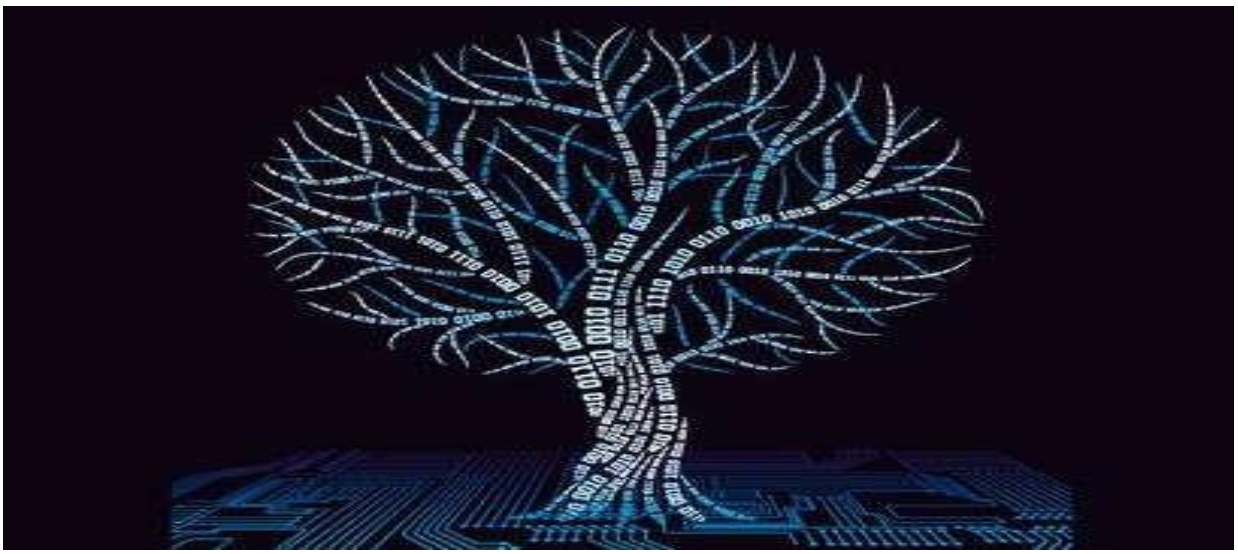

```
Import numpy as np
N = int (input('Enter number of data points: '))



x = np.zeros((n))

y= np.zeros((n))


print('Enter data for x and y:  ')

for i in range(n):

        x[i]=float(input('x['+str(i)+ ']='))

        y[i]=float(input('y0['+str(i)+ ']='))


xp = float(input('Enter interpolation point: '))

yp = 0


for i in range(n):

        p =1

        for j in range(n):

                if i != j:

                        p =p *(xp - x[j]/(x[i] - x[j]))

        yp = yp + p * y[i]

print('Interpolated value at %.3f is %.3f' %(xp,yp))
```

```
Enter number of data points: 6
Enter data for x and y:
x[0]=0
y0[0]=0
x[1]=10
y0[1]=227.04
x[2]=15
y0[2]=362.78
x[3]=20
y0[3]=517.35
x[4]=22.5
y0[4]=602.97
x[5]=30
y0[5]=901.67
Enter interpolation point: 16
Interpolated value at 16.000 is 2648491159.680.
```